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ABSTRACT

Observational data was taken in the homes of 17 abuse, 17 neglect, and 19 control families to discover whether there are distinctive patterns of day-to-day interaction that distinguish abusive and neglectful families from families with no known history of abusing or neglecting their children. The observational code was recorded through the Behavioral Observation Scoring System. Data indicated that mothers in abuse families direct contacts to other family members at a low rate and when they do interact, either with their spouses or their children, they accentuate the negative more than do their husbands and more than the parents in the control families. The abusive mothers also tended not to interact on a physical level. A somewhat similar pattern emerged for the neglect families: The parents responded positively at a much lower rate than controls and they directed considerably more negative responses to their children. Thus, their low rate of positive parental responding was exacerbated by their high rate of negative contacts. (Author/SBH)

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Family Interaction in Abusive, Neglectful and Normal Families

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FAMILY INTERACTION PATTERNS RELATED TO CHILD ABUSE AND NEGLECT

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Research suggests that parents with problem children often show little positive interaction with their children, tending to rely instead on punitive techniques of control or they provide positive attention inconsistently. A similar pattern has been found in families exhibiting a variety of behavior problems. These lines of research suggest that parents who resort to excessive corporal punishment, or who seriously neglect their children may display similar behavior patterns. These and related ideas were tested as part of a three-year project investigating the interaction patterns in a number of abusive, neglectful, and matched control families.

The principal dependent variable was the observed pattern of interaction between family members. The observational code was recorded through the Behavioral Observation Scoring System (BOSS). For the code as a whole observer agreement was quite high, the lowest coefficient being .96. The data indicate that mothers in abuse families direct contacts to other family members at a low rate and when they do interact, either with their spouses, or their children, they accentuate the negative more than do their husbands and more than the parents in the control families with whom they have been matched. The abusive mothers also tend not to interact on a physical level. A somewhat similar pattern emerges for the neglect families: The parents respond positively at a much lower rate than their matched controls and they direct considerably more negative responses to their children. Thus, their low rate of positive parental responding is exacerbated by their higher rate of negative contacts.

Abstract

This study represents an attempt to discover whether there are distinctive patterns of day-to-day interaction that distinguish abusive and neglectful families from families with no known history of abusing or neglecting their children. Observational data taken in the homes of 17 abuse, 17 neglect and 19 control familes indicate that abusive and neglectful families have lower rates of interaction, overall, and they are much more likely to emphasize the negative and eliminate the positive in their relationships with each other. The implications of these data for further research and for intervention efforts are discussed.

Family Interaction in Abusive, Neglectful and Normal Families

The search for the primary causes of child abuse and neglect has led to an increasing amount of research during the past ten to fifteen years (Gil, 1970; Kempe et al., 1962). An examination of this research literature reveals three major approaches or models that have been used to explain such deviant parenting practices (Parke and Collmer, 1975). The first of these approaches-the psychiatric model-focuses on the parent as the main cause of abuse and neglect. Basically, this model assumes that abusive and neglectful parents possess a set of personality characteristics that distinguishes them from other parents (Kempe, 1973; Spinetta and Rigler, 1972). It further assumes that these personality traits are pathological and that adults who possess them require extensive psychiatric treatment to be cured of their illness. Unfortunately, much of the research from this perspective is inconsistent and contradictory (Gelles, 1973).

The second approach-the sociological model-shifts the focus from the parent to the social environment. Inappropriate parenting is thought to result from the stress and frustration which parents encounter in their constant attempt to cope with the exigencies of their daily lives (Gil, 1971). From this perspective, effective intervention programs should attend to the alleviation of the stress encountered by parents, especially by lower-class parents. However, research within this tradition has tended to rely upon the use of survey questionnaires or the secondary analysis of official statistics. For this reason, as well as for others, cause-effect relations have been very difficult to detect.

The third approach has been called the social situational model (Parke and Collmer, 1975). This perspective, like the sociological model, assumes deviant parenting practices can best be understood by a careful examination of external

environmental events impinging or families. The level of analysis, however, is different. It is social psychological. The emphasis is on the study of the everyday interactions that occur within families that might be important contributors to or indicators of abuse and neglect. This perspective assumes that the investigation of family relationships should include interactions among all possible actors within families--interaction between the parents and their children, between the parents themselves, where both parents are in the home, and between the child and his or her siblings. It is further assumed that the investigator should attend to the reciprocal character of the interaction, e.g., behavior from the child to the parent as well as from the parent to the child.

This third level of analysis is especially likely to lead the investigator to the direct observation of family relationships and to the observing of those relationships in their natural ecology, i.e., the home. This approach, in turn, leads to a renewed awareness of the importance of defining behaviors objectively and in such a manner as to minimize inferential or subjective judgments on the part of the observer. This latter requirement is particularly important when we are dealing with phenomena as sensitive, subtle and complex as social interaction, and it is critical when we are attempting to measure these behaviors as they occur in field settings.

An excellent example of the social situational model can be found in the work of Gerald Patterson and his associates at the Oregon Research Institute. Their research has indicated that parents with problem children often direct relatively few positive contacts to their children. Instead, these parents seem to rely upon punitive techniques, especially when they are disturbed by their children's behavior and are trying to control that behavior. Their studies also suggest that when such parents do respond positively, however, frequently, they tend to do so inconsistently with apparently little regard for

the prevailing circumstances (Patterson, 1974; Patterson and Reid, 1970; Johnson and Lobitz, 1974).

Other research by Alexander (1970), Duncan (1968), Mishler and Waxler (1968), Stuart (1968) and Winter and Ferreira (1969) indicates that families exhibiting various kinds of deviant behavior tend to be more silent, talk less equally, have fewer positive interruptions and, in general, are less active than normal families. In a similar fashion, Gordon and Kogan (1974) have discovered that mothers who find their children generally unrewarding tend to be rather negative in their interactions with their children. In contrast, mothers not experiencing these problems tend to give praise and attention contingent on their children's behavior and the frequency of positive attention from mother to child is higher than in the problem families.

These lines of research converge on the notion that parents who resort to excessive corporal punishment or who seriously neglect their children may typically display similar behavior patterns. Moreover, such parents may actually possess limited behavior repertoires in social relations generally, which are especially noticeable and cause for social concern when they involve their own small children. An observational study of the behavior patterns occurring between all family members should be able to show to what extent coercive behaviors predominate in abusive and neglectful families in comparison to other families. Such an investigation should also help clarify whether there are general deficits in social skills in abusive and neglectful families of a greater magnitude than in non-abusive and non-neglectful families.

Procedures

Sample

Three family types were selected for study: (1) those where there were authenticated occurrences of non-accidental physical injury (abuse) to one or more children by a caretaker; (2) those where one or more children experienced

a lack of parental attention (neglect) so severe that it reached the attention of legal authorities; and (3) families with no official records of abuse or neglect but that were similar to the first two types on a number of dimensions such as age of parents and children, number of children, and income and educational levels of the parents. These latter families were designated control families.

Families classified as abusive (17) or neglectful (17) were recruited through the Commonwealth of Pennsylvania's Department of Public Welfare. The control or comparison families (19) were contacted by the Pennsylvania Field Research Laboratory. The families reside in a generally rural environment in central Pennsylvania. In general, a good match was obtained between problem and control families. In order to attract as well as to assure continued participation in the study, the families were paid $10.00 for each of four visits.

Setting

Observers were scheduled to see the families in their homes for six hours during a given week. Four hours of this time were spent in actual observation; a longer period for larger families, slightly less for smaller families. Each of the four observation sessions was separated into three distinct tasks: construction, skill and discussion. These tasks were selected to encourage interaction in situations common to most families. The construction tasks were selected to set the occasion for cooperative interaction, the development of a division of labor, i.e., the assignment of specific roles to family members, and to increase the likelihood of physical contact. The skill tasks were selected to allow for the family to make up their own rules and to set the occasion for competitive interaction. Finally, the discussion tasks were designed to facilitate verbal exchange among the family members. There was a five minute break between tasks. Within each task a particular family member

was focal subject twice for a minimum of one and one-half minutes each period. Thus, each family member was a focal subject for at least thirty-six minutes during the four observation sessions. The order of focal subjects was determined by a table or random numbers before a session began.

Response Definition

The principal dependent variable in this study was the observed pattern of interaction between family members. The observational code used was recorded through the Behavioral Observation Scoring System (BOSS). BOSS consists of a ten-digit keyboard, a stopwatch, and an especially modified cassette tape recorder. When a particular behavior occurs, the observer depresses a key and an electrical impulse is transmitted onto a magnetic tape inside the attached recorder. Special computer programs decipher the impulse from the magnetic tape. The behavior code, itself, consists of five column entries:

1) Type of Interact

   For any given one and one-half to two minute interval, during which a particular family member is the "focal" subject, he or she can direct a verbal response to another family member (verbal give = 1) or touch another family member (physical give = 3). On the other hand, the focal subject may be the recipient of another's verbalization (verbal receive = 2) or be the subject of another's physical response (physical receive = 4). These four categories exhaust the behavior possibilities for column 1.

2) Emotional Affect of Interact

   Column 2 modifies the general interact entry by coding the emotional affect for that behavior (1 = neutral, 2 = positive, 3 = negative).

3) Columns 3 and 4 identify the other person who is interacting with the focal subject.

4) In this way, we can record any and all interactions between the focal subject and the other members of the family.

5) To complete the code, column 5 indicates the occurrence of a command (prescriptive command = 1, proscriptive command = 2, comply = 3, refuse = 4, neither = 5).

Once a family has been observed, the cassette tapes are played through a special electronic interface which notes the events as they occurred as well as the passage of time between the data entries. The addition of a temporal dimension is possible because a cassette is recorded and played back in "real time" which allows for the computation of behavior rates making comparisons within and across families possible.

Observer Reliability

In an attempt to minimize observer bias, the observers were not informed until all observations were completed whether the family they were observing was an abuse, neglect, or control family. In addition, immediately after observing a family, the research assistants involved were asked to guess in which family category this family belonged. Basically, they were poor guessers. In general, families were identified as neglecting less often than would be expected from their actual number. The majority of the families were hypothesized to be in the control category.

The observers operated in pairs which were shifted in composition every two or three weeks to prevent the development of unique definitions of the behavior codes. In order to check on observer reliability, both observers coded family interaction over all sessions. One observer's tapes were randomly selected for complete analysis. Then a "probe" tape was randomly selected from the second observer's coding, one from each session, to compare with the data from the other observer. Observer reliability was estimated by computing correlation coefficients, slopes and intercepts using the rates of a particular behavior scored for each family member by the two observers. Two sources of error are taken into account, i.e., the actual frequency of a given behavior

and the time involved in observation. If the correlation coefficient is high, the intercept close to zero and the slope approximately 1.00, agreement between the observers would be high. If the intercept either exceeds or is less than zero, a high correlation with a slope close to unity would suggest a persistent positive or negative bias in the data.

Results

In all, over 20,000 verbalizations were recorded for each family type, with mean frequencies per family ranging from 1,254 to 1,430. For the code as a whole, observer agreement was quite high, the lowest coefficient being .96. Moreover, the slopes were all close to 1.00, the most disparate being .96. The intercepts were close to the expected value of zero with apparently random fluctuations ranging from -.04 to +.04.

Behavior Rates

Rates of behavior were considered to be the most appropriate units of analysis rather than frequencies since individual family members were not always observed for equivalent time periods due to absences and other confounding events. However, when rates are examined, care should be taken not to forget that small rate differences can reflect large differences in total amounts of behavior. For example, if one family member directs verbal responses to another at a rate of six per minute and another at a rate of five per minute, the first person will emit approximately 240 more verbal responses over the four hour period of observation than the second person.

The data are presented in the following tables as mean response-rates-per-minute for verbal and physical acts. To facilitate comparison, percentage differences between the abuse-neglect and the control families are listed as well as the direction of those differences. Given the relatively small sample size of this study, care should be taken in evaluating the results of the statistical test used. Since the study was an intensive exploratory study, on

the one hand, yet was definitely guided by previous research, on the other, one-tailed significance levels ($p \leq .20$) derived from t tests using separate error variances were used. The sample size represents a compromise between an attempt to maximize external validity and the need to obtain relatively detailed base-rate data.

Abuse Families

A number of distinctive differences in styles of verbal and physical interaction have emerged between abuse and control families. These differences are especially noteworthy for mothers. For example, as can be seen from Table 1, mothers in the abuse families directed 24 percent fewer verbal contacts to other family members than did the mothers in the control families. They talked at a rate of only 4.47 times per minute compared to 5.89 per minute for the control mothers.

Insert Table 1 about here

In addition to their lower base rates of total verbal behavior, mothers in the abuse families directed 27 percent fewer contacts specifically to their children (2.98) than did mothers in the control families (4.08). Those data can be seen in Table 2. Interestingly, the children reciprocated in kind by addressing their mothers 25 percent less often than did children from the control families.

Insert Table 2 about here

Other distinctive characteristics of the interaction styles of abusive families include the fact that the mothers responded to other family members in

a positive manner 34 percent less often than did mothers in the control families (Table 3).

Insert Table 3 about here

Table 4 shows the breakdown in positive interaction for the various dyads within the family. The data are quite consistent especially so far as parent-child interaction is concerned. For instance, the mothers exhibit rates of positive interactions with their children 40 percent lower than control mothers.

Insert Table 4 about here

This general tendency to direct fewer positive responses to other family members in the abuse families is exacerbated by the fact that these individuals also tend to respond more negatively. For example, the parents in the abuse families direct negative contacts to the family as a whole 60 percent more often than do control parents (Table 5).

Insert Table 5 about here

As can be seen from an inspection of Table 6, this pattern is especially noticeable for the mothers in their relationships with their children. It is also the case that children in the abuse families show evidence that they are adopting some of the same patterns of interaction as their parents. For example, the children respond negatively to each other considerably more often than do the children in the control families.

Insert Table 6 about here

Neglect Families

So far as the neglect families are concerned, they displayed many of the same patterns as the abuse families. Indeed, in some respects the differences between the neglect and control families are even more sharply delineated than they were in the abuse-control comparisons.

Insert Table 7 about here

This fact is not particularly evident from an examination of mean rates of total verbal interaction except for their consistency (Tables 7 and 8) but it is striking when we examine rates of positive and negative interaction.

Insert Table 8 about here

For example, as can be seen from Table 9, parents in the neglect families tend to behave positively 49 percent less often than do parents in the control families. Moreover, the parents, together, interact with their children in a positive fashion 51 percent less frequently than do control parents (Table 10). It is also interesting to note that children in the neglect families are especially likely not to repond positively to their fathers but are more likely to interact positively with each other than is the case for children in the control families, though this latter finding fails to reach statistical significance.

Insert Tables 9 & 10 about here

When we examine the data for negative interaction, we find especially provocative differences between neglect and control families. For example, in Table 11 we see that the parents in neglect families display rates of negative contacts with other family members over twice as high (.54 per minute) as that found for control parents (.25 per minute).

Insert Table 11 about here

These differences remain statistically, theoretically, and practically significant when we look at the rates of negative interaction among the various dyads that comprise the families (Table 12). Mothers, for example, interact negatively with their children over two and one-half times as often as do mothers in the control families.

Insert Table 12 about here

Discussion. We have described some of the more striking differences in patterns of interaction between abusive, neglectful and control families. In general, the abusive and neglectful families display some of the same characteristics that have been found for other problem families (Patterson and Reid, 1970; Gordon and Kogan, 1974). Overall, parents in the abuse families tended to initiate contacts with other family members at a significantly lower rate than their matched controls. Moreover, when they did interact with their children, they clearly accentuated the negative more than the parents in the control families with whom they were matched. These data are graphically portrayed in Figures 1 and 2.

Insert Figure 1 about here

Interestingly, the abusive parents, as a unit, tended not to interact on a physical level (Table 13). This was true whether the physical act was designated to be positive in affect as in affectionate behavior, negative in affect, e.g., hitting, or neutral in affect as in getting another family member's attention. A compelling conclusion is that these adults, especially the mothers, are unskilled in the use of physical contacts and when they do employ physical behavior, they do so inappropriately or excessively. Whatever the explanation for this pattern, they clearly seem to be passing it along to their children. The higher frequency of children to children physical interaction should be considered in light of the fact that their rates of negative interaction, physical as well as verbal, was 52 percent higher than that found for children in the control families (Table 6).

Insert Table 13 about here

A similar pattern emerged for the neglect families. The parents, for instance, responded to their children positively at a much lower rate than did their matched controls. These parents also directed considerably more negative responses to other family members. Thus, their low rate of positive responding was aggravated by their concomitantly higher rate of negative contacts.

Insert Figure 2 about here

The data described in this report must, of course, be interpreted with care. To begin with, the sample is small, only 17 abuse, 17 neglect and 19 control families. Yet, in spite of the small sample size, there was, as we have seen, a considerable number of statistically significant findings. This suggests that these results are statistically robust and highly likely to be

replicated. The extent to which these interaction patterns are peculiar to our largely rural sample can only be determined by future research of a similar nature in urban settings.

There is reason to suspect that the differences in styles of interaction between problem and non-problem families which we have described are conservative estimates. The basis for this argument is that a considerable number of our control families were found to be at risk for potentially engaging in abusive acts as determined by their profiles on the Helfer-Schneider (1974) "Survey on Bringing up Children." This matter can best be resolved by enlarging the control sample to include more parents with low scores on the Helfer-Schneider scale.

We are in the process of relating these interaction styles to other data which were collected simultaneously such as measures of stress derived through the Schedule of Recent Experiences (SRE) questionnaire (Holmes and Masuda, 1973) and the health of the parents as determined by their response to the Cornell Medical Index (Conger, Burgess and Barrett, 1977). Again, sharp differences emerge between the problem families and their matched controls. The abuse families tended to show more consistent life change and greater physical and emotional disturbance than their control families. While some of the same differences were found to obtain between neglectful parents and their controls, the differences were neither as consistent nor as significant statistically.

Although we have emphasized in this report differences in rates of interaction, we have also analyzed these data in terms of more complex and subtle dimensions such as the degree of reciprocity among family members as well as their tendency to interact equitably or inequitably. So far, we have carried out such analyses only on a molar level through regression analyses and for only part of our sample. We defined reciprocity as the tendency for individuals

to respond to one another in kind. Thus, if the rate of person A's gives to B equals the rate of person B's gives to A, reciprocity would be said to occur. These analyses were accomplished simply by correlating the rates of gives from each family member to each other. Equity was defined as the tendency for individuals to proportion their behavior to each other equally (Burgess and Nielsen, 1974). For equity to exist, then, the proportion of all A's gives which B receives must be equal to the proportion of all A's receives which originate from B. These particular analyses were carried out by correlating the relative rate of gives from one family member to another with the relative rate of receives contributed by the second person to the first.

Basically, the sorts of differences we have described earlier in this report are mirrored in our analyses of reciprocity and equity. In general, the abuse and neglect families seem to be less reciprocal and less equitable in their dealings with each other. This was particularly the case for physical interaction in the abuse families as a whole. For verbal behaviors, there was an especially low level of reciprocity among the children in abuse families. One provocative finding in this regard is that the older children in abuse families are apparently responding to their mothers' poor parenting skills by serving as surrogate parents to their younger siblings. These analyses also suggest that adults in the abuse families display a greater tendency than control adults to behave in a coercive manner with each other. And, interestingly this same pattern held for children in the abuse families in their relationships with each other. Thus, the pattern is continued.

Neglect families deviated from reciprocity especially in parent-child relations. The lower degree of adult-child reciprocity in the neglect families appears to result in part from the 13 percent lower rate of child to adult verbal contacts found in these families compared to their matched controls. This finding is suggestive of a lack of contingent attention which is also

consistent with the fact that neglect parents directed positive contacts to their children approximately one-half as often as did control parents. On the other hand, the children, through their low response rates, may be failing to reinforce appropriate supportive behaviors from their parents. Most likely, both of these processes are at work. These analyses are presented in detail in a separate report (Conger and Burgess, 1977).

These latter observations point up the major deficiency of these molar-level analyses. To understand the mechanisms or processes that are maintaining these patterns of interaction, we need to inspect and analyze the contingencies which exist between the patterns themselves. For example, what kinds of behavior by the child typically precede negative gives by the parent to the child? Similarly, what kinds of behavior by the child are most likely to evoke positive responses from the parent? To begin to answer these and related questions we need to carry out molecular analyses focusing on response-sequences and conditional probabilities. These analyses are currently underway.

Ultimately, we shall need to conduct experimental analyses to determine the extent to which certain behavior patterns are functionally related to specific others. Such functional analyses are necessary so that we cannot only determine conclusively what is presently maintaining such dysfunctional patterns of interaction but also gain further insight into how these patterns develop initially. Moreover, such analyses are indispensable if we are to design and implement truly effective intervention programs aimed at prevention as well as remediation.

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Footnotes

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Table 1

MEAN RATES OF TOTAL VERBAL CONTACTS

	Abuse	Control	% Difference	1-Tail Probability
Total Family	19.48	20.77	<.06	p .19
Parents	9.26	10.73	<.14	p .03
Mothers	4.47	5.89	<.24	p .01
Fathers	4.79	4.84	<.01	-----
Children	10.22	10.03	>.02	-----

Table 2

MEAN RATES OF TOTAL VERBAL INTERACTION

	Abuse	Control	% Difference	1-Tail Probability
Parents to Children	6.34	7.38	<.14	p .08
Mothers to Children	2.98	4.08	<.27	p .01
Fathers to Children	3.36	3.29	>.02	-----
Children to Parents	4.41	5.02	<.12	p .08
Children to Mothers	2.11	2.80	<.25	p .04
Children to Fathers	2.30	2.22	>.04	-----
Children to Children	2.87	2.39	>.20	-----
Mothers to Spouses	1.03	1.04	<.01	-----
Fathers to Spouses	.91	.92	<.01	-----

Table 3

MEAN RATES OF POSITIVE VERBAL AND PHYSICAL CONTACTS

	Abuse	Control	% Difference	1-Tail Probability
Total Family	.93	1.15	<.09	p .16
Parents	.53	.73	<.27	p .12
Mothers	.27	.41	<.34	p .07
Fathers	.26	.31	<.16	-----
Children	.40	.43	<.07	-----

Table 4

MEAN RATES OF POSITIVE VERBAL AND PHYSICAL INTERACTION

	Abuse	Control	% Difference	1-Tail Probability
Parents to Children	.41	.63	< .35	p .05
Mothers to Children	.21	.35	< .40	p .04
Fathers to Children	.20	.23	< .24	p .14
Children to Parents	.21	.23	< .09	-----
Children to Mothers	.09	.11	< .18	-----
Children to Fathers	.12	.12	----	-----
Children to Children	.08	.09	< .11	-----
Mothers to Spouses	.05	.03	> .67	-----
Fathers to Spouses	.04	.02	>1.00	-----

Table 5

MEAN RATES OF NEGATIVE VERBAL AND PHYSICAL CONTACTS

	Abuse	Control	% Difference	1-Tail Probability
Total Family	1.11	.74	>.50	p .12
Parents	.40	.25	>.60	p .10
Mothers	.23	.13	>.77	p .08
Fathers	.17	.12	>.42	p .20
Children	.71	.49	>.45	p .16

Table 6

MEAN RATES OF NEGATIVE VERBAL AND PHYSICAL INTERACTION

	Abuse	Control	% Difference	1-Tail Probability
Parents to Children	.35	.23	>.52	p .12
Mothers to Children	.20	.12	>.67	p .09
Fathers to Children	.15	.11	>.36	p .21
Children to Parents	.17	.15	>.13	-----
Children to Mothers	.10	.09	>.11	-----
Children to Fathers	.07	.06	>.17	-----
Children to Children	.44	.29	>.52	p .16
Mothers to Spouses	.01	.01	----	-----
Fathers to Spouses	.01	.01	----	-----

Table 7

MEAN RATES OF TOTAL VERBAL CONTACTS

	Neglect	Control	% Difference	1-Tail Probability
Total Family	19.61	20.77	<.06	-----
Parents	9.54	10.73	<.11	p .05
Mothers	5.42	5.89	<.08	p .20
Fathers	4.12	4.84	<.15	p .08
Children	10.06	10.03	-----	-----

Table 8

MEAN RATES OF TOTAL VERBAL INTERACTION

	Neglect	Control	% Difference	1-Tail Probability
Parents to Children	6.73	7.38	<.09	p .16
Mothers to Children	3.90	4.08	<.04	-----
Fathers to Children	2.84	3.29	<.14	p .15
Children to Parents	4.37	5.02	<.13	p .06
Children to Mothers	2.72	2.80	<.03	-----
Children to Fathers	1.65	2.22	<.26	p .04
Children to Children	2.83	2.39	>.18	-----
Mothers to Spouses	.99	1.04	<.05	-----
Fathers to Spouses	.91	.92	<.01	-----

Table 9

MEAN RATE OF POSITIVE VERBAL AND PHYSICAL CONTACTS

	Neglect	Control	% Difference	1-Tail Probability
Total Family	.73	1.15	<.37	p .02
Parents	.37	.73	<.49	p .01
Mothers	.22	.41	<.46	p .02
Fathers	.14	.31	<.55	p .01
Children	.37	.43	<.14	-----

Table 10

MEAN RATES OF POSITIVE VERBAL AND PHYSICAL INTERACTION

	Neglect	Control	% Difference	1-Tail Probability
Parents to Children	.31	.63	<.51	p .01
Mothers to Children	.18	.35	<.49	p .02
Fathers to Children	.12	.28	<.57	p .01
Children to Parents	.18	.23	<.22	p .15
Children to Mothers	.11	.11	----	-----
Children to Fathers	.07	.12	<.42	p .05
Children to Children	.11	.09	>.22	-----
Mothers to Spouses	.03	.03	----	-----
Fathers to Spouses	.01	.02	<.50	-----

Table 11

MEAN RATES OF NEGATIVE VERBAL AND PHYSICAL CONTACTS

	Neglect	Control	% Difference	1-Tail Probability
Total Family	1.20	.74	> .62	p .04
Parents	.54	.25	>1.16	p .01
Mothers	.33	.13	>1.54	p .01
Fathers	.21	.12	> .75	p .05
Children	.66	.49	> .35	p .16

Table 12

MEAN RATES OF NEGATIVE VERBAL AND PHYSICAL INTERACTION

	Neglect	Control	% Difference	1-Tail Probability
Parents to Children	.50	.23	>1.17	p .01
Mothers to Children	.31	.12	>1.58	p .01
Fathers to Children	.18	.11	> .64	p .08
Children to Parents	.23	.15	> .53	p .18
Children to Mothers	.14	.09	> .56	p .20
Children to Fathers	.09	.05	> .80	p .15
Children to Children	.35	.29	> .21	-----
Mothers to Spouses	.01	.01	-----	-----
Fathers to Spouses	.01	.01	-----	-----

Table 13

MEAN RATES OF TOTAL PHYSICAL INTERACTION

	Abuse	Control	% Difference	1-Tail Probability
Parents to Children	1.13	1.49	<.24	p .03
Mothers to Children	.58	.82	<.29	p .03
Fathers to Children	.56	.67	<.16	p .16
Children to Parents	1.49	1.85	<.19	.05
Children to Mothers	.73	.98	<.26	.02
Children to Fathers	.77	.87	<.11	p .20
Children to Children	1.35	1.00	>.35	p .19
Mothers to Spouses	.12	.13	<.08	-----
Fathers to Spouses	.08	.10	<.20	-----

Figure Captions

Figure 1. Mean response rates-per-minute of positive verbal and physical interaction within and across abuse, neglect and control families.

Figure 2. Mean response rates-per-minute of negative verbal and physical interaction within and across abuse, neglect and control families.

MEAN RATES OF POSITIVE VERBAL AND PHYSICAL INTERACTION

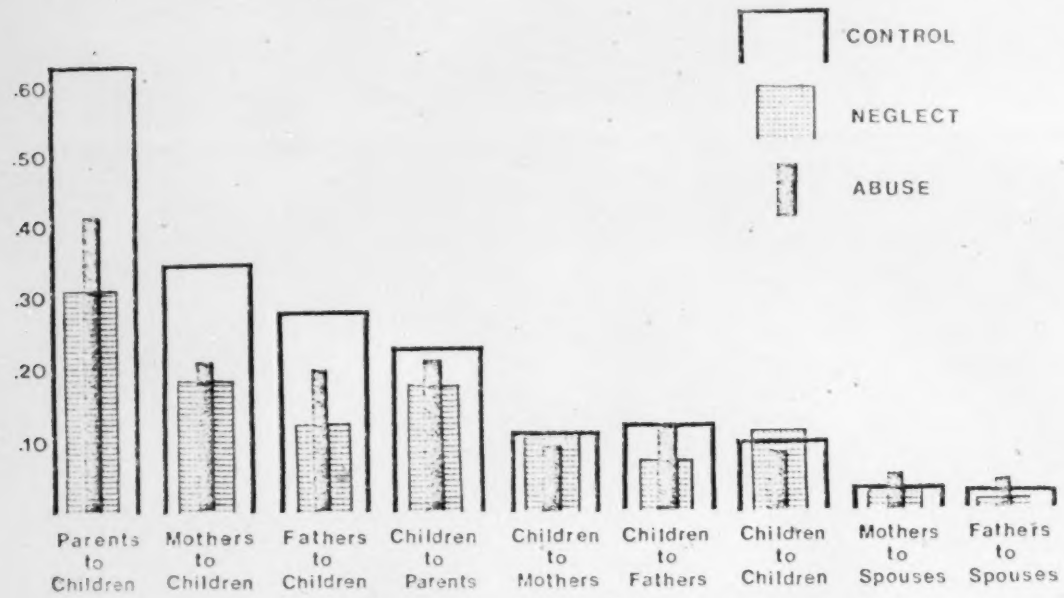

Figure 1

MEAN RATES OF NEGATIVE VERBAL AND PHYSICAL INTERACTION

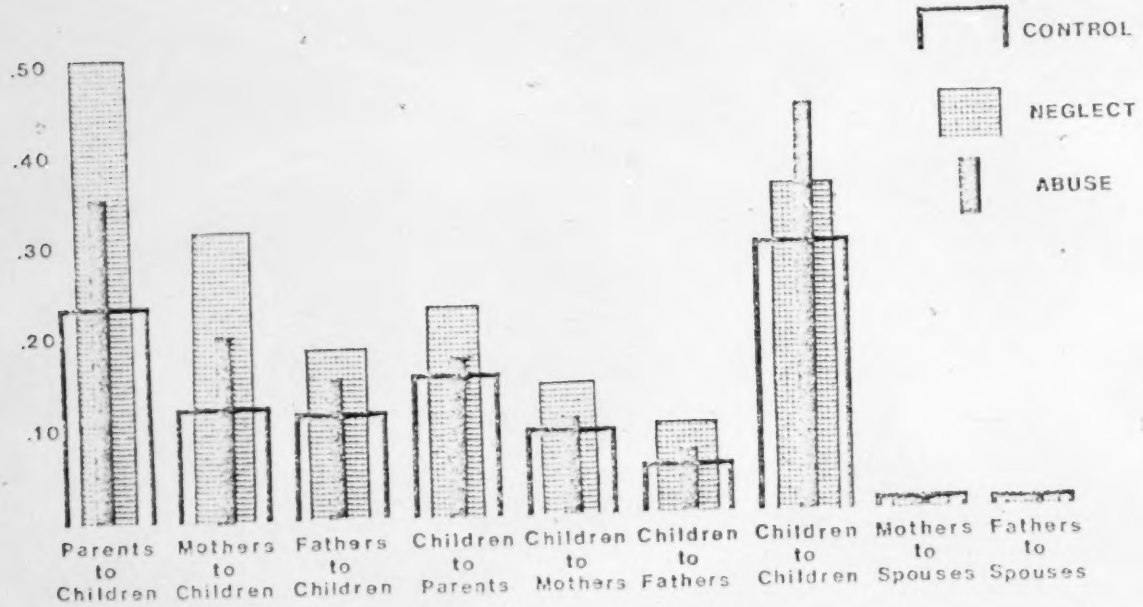

Figure 2